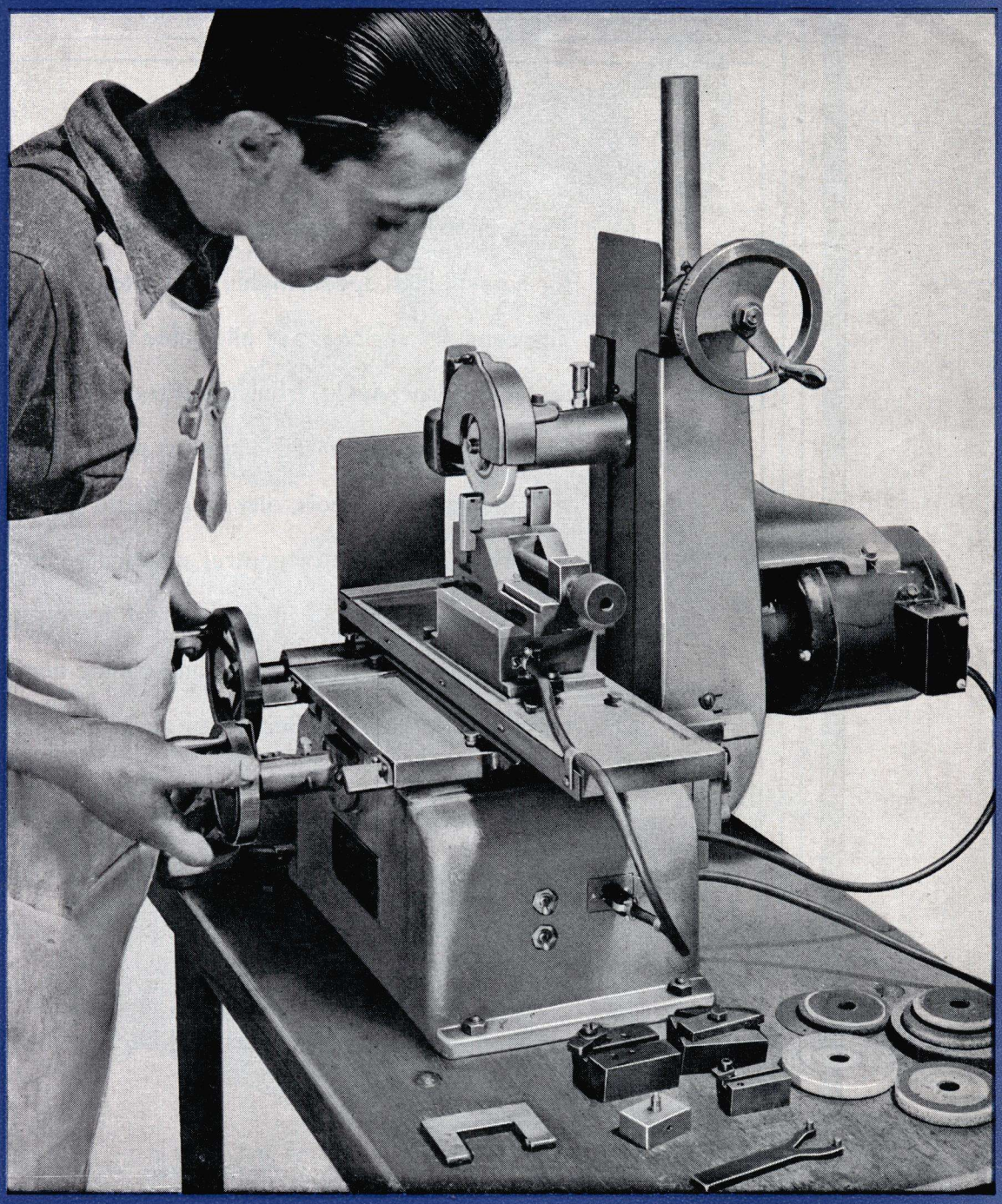
Accuracy with Speed and Sensitivity



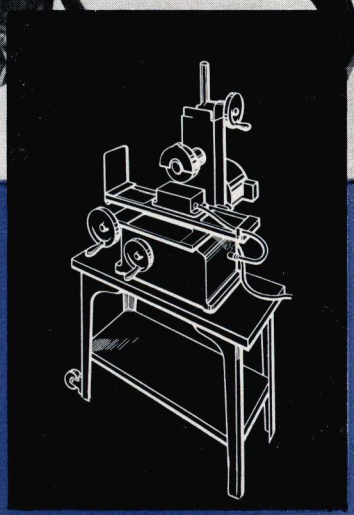
SANFORD MODEL SG
BENCH SURFACE GRINDER ★ ★

The Sanford Bench Surface Grinder is the answer to the need for a small high speed, highly accurate, bench surface grinder. The constant shrinkage of allowable tolerances in many manufacturing procedures, from thousands to split-tenths in many instances, has presented a serious problem particularly in the grinding of small tools, dies, gages, and instrument parts. The sensitivity and ease of control necessary for such operations —on parts that would fit in the palm for example—cannot be found economically in large cumbersome machines. To satisfy this need the Sanford Bench Surface Grinder was created.

The Sanford Bench Surface Grinder is designed especially for the fussy little jobs which must be held to a tenth. Only the best of materials go into its construction and each machine embodies the fine craftsmanship which has built the Sanford reputation. This machine has well been termed:

"A mighty mite for grinding right"

Sanford Bench Surface Grinder with standard equipment ready for operation.



Conveniently mounted on low cost portable table.

If it fits in

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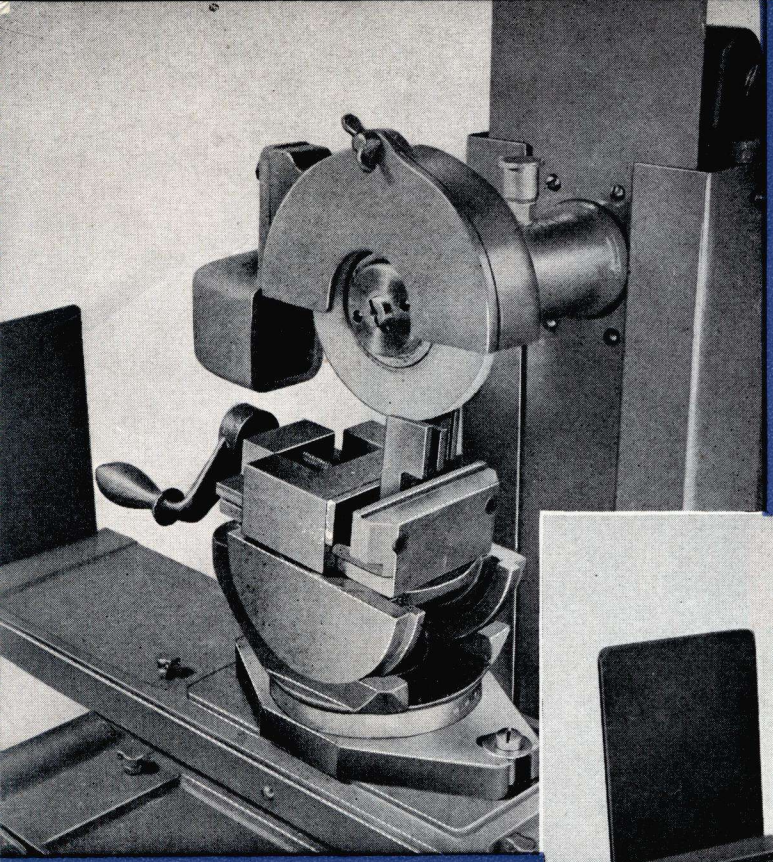
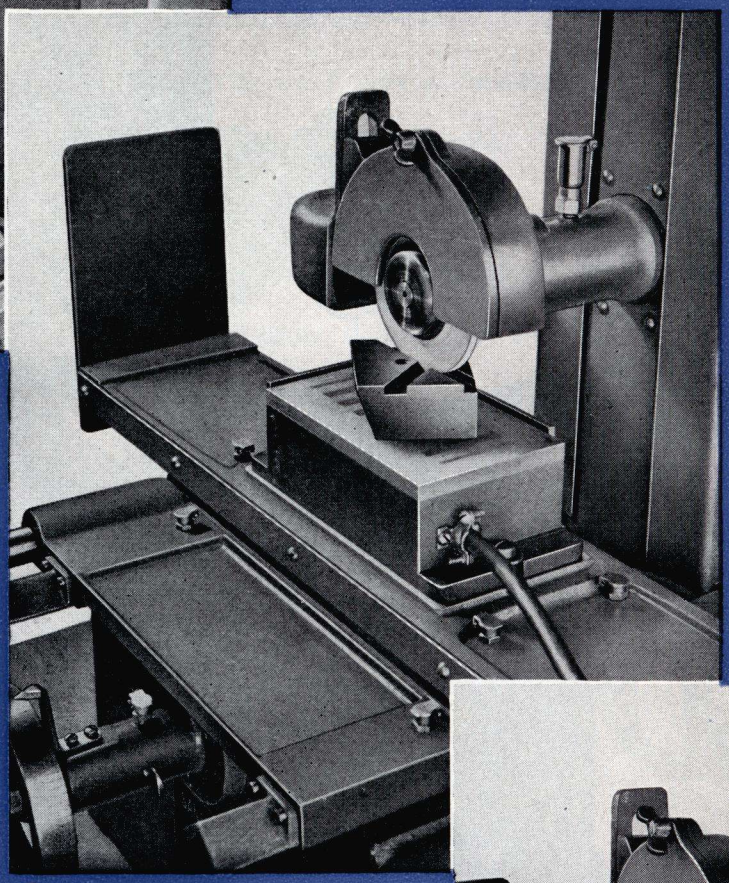
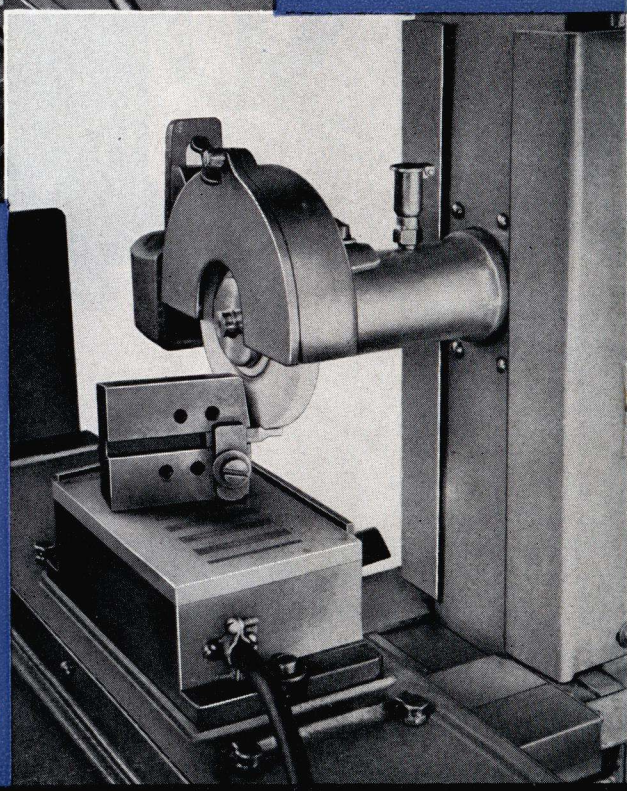
SANF



Grinding surfaces and clearances on intricate small punch.



Finishing sides and bottom of slot.



Holding square-thread cutting tool to close tolerances.

Accuracy at Low Cost

SANFORD GRINDERS PAY THE

Your palm—

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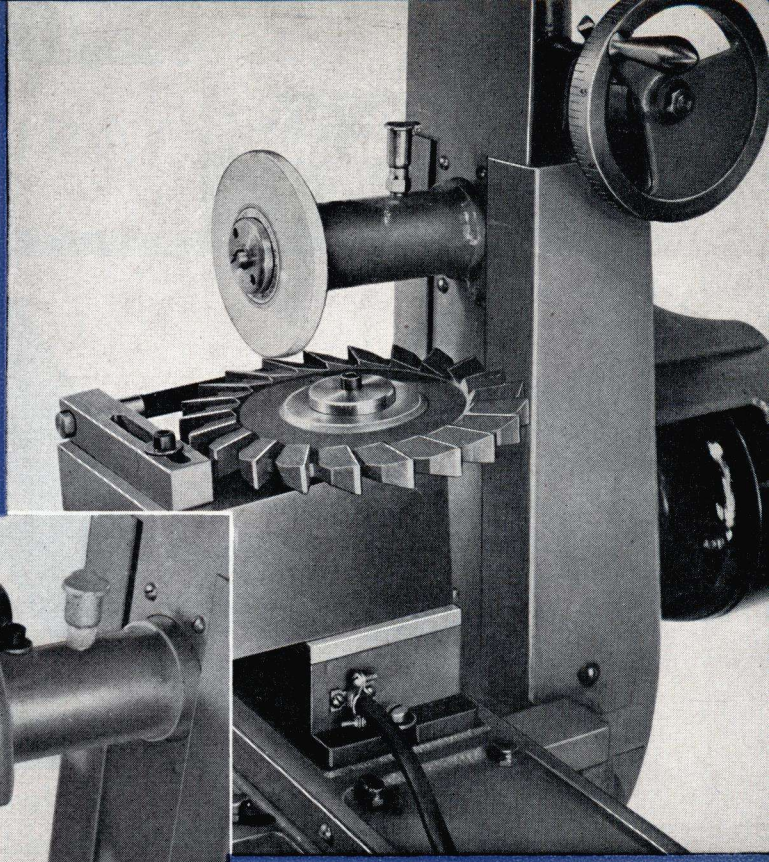
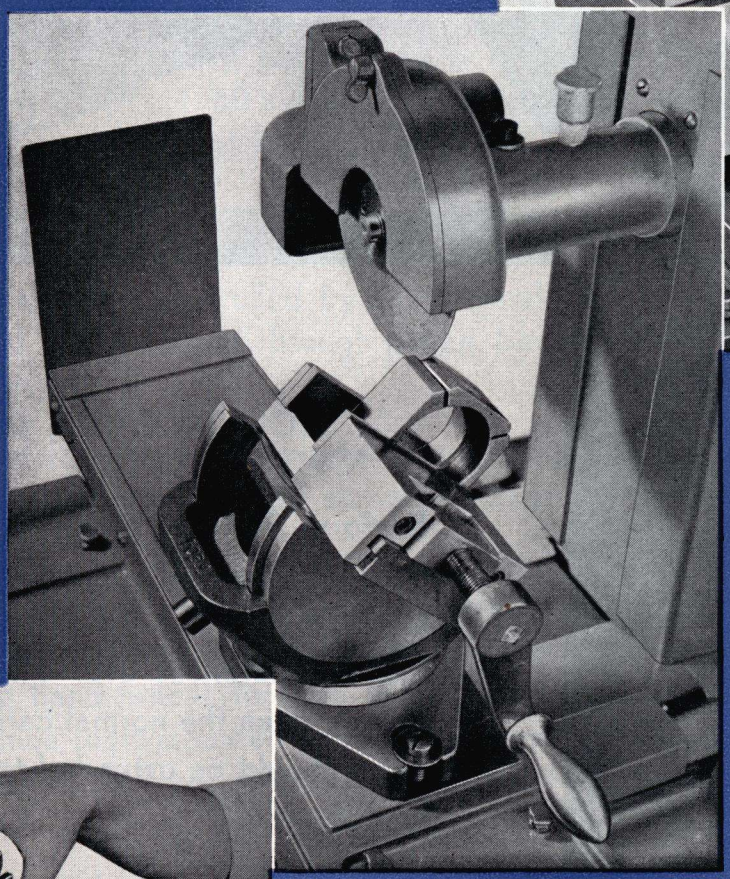
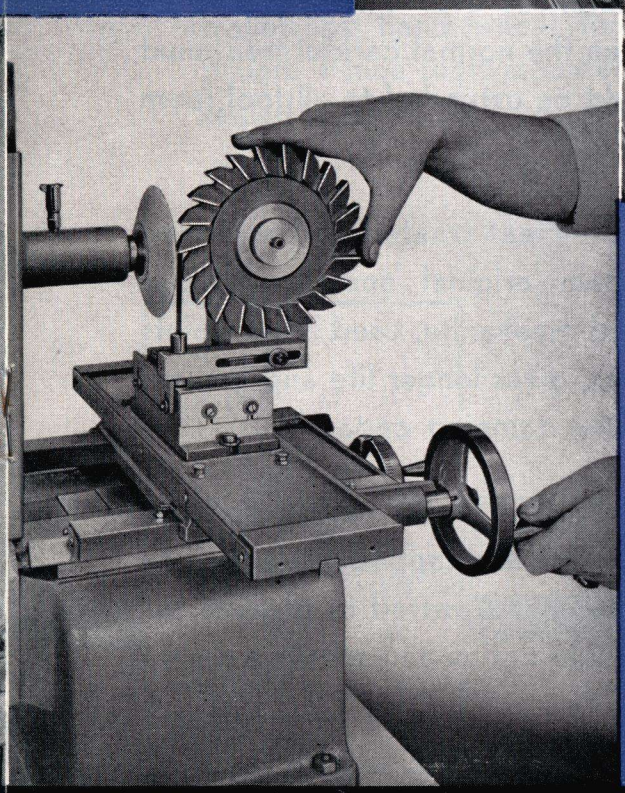


Sanford Cutter Grinding Attachment in horizontal position for grinding side clearances (see page 8)



Finishing slot with formed wheel.

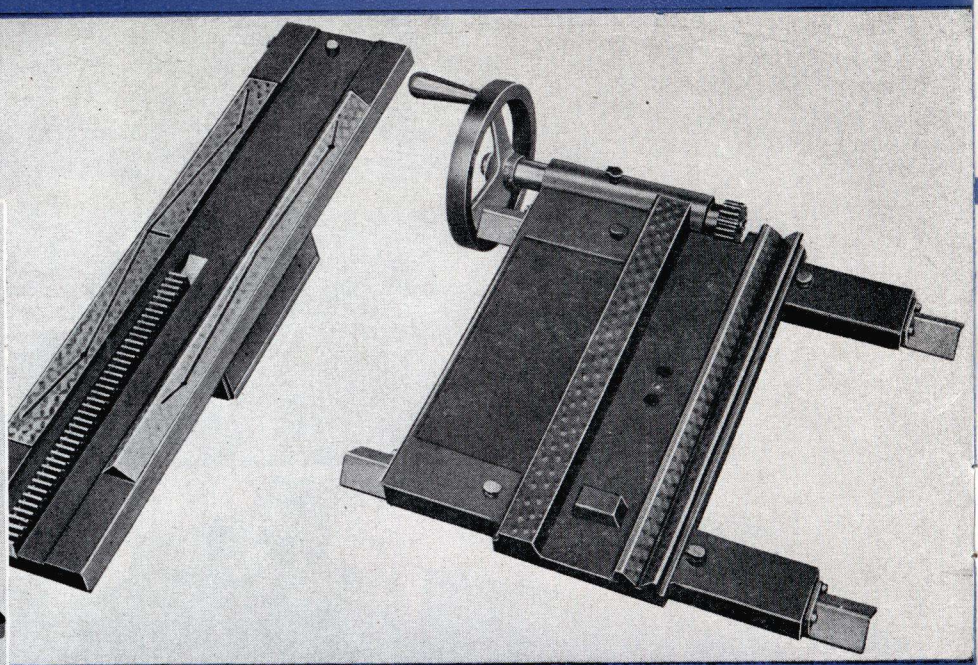


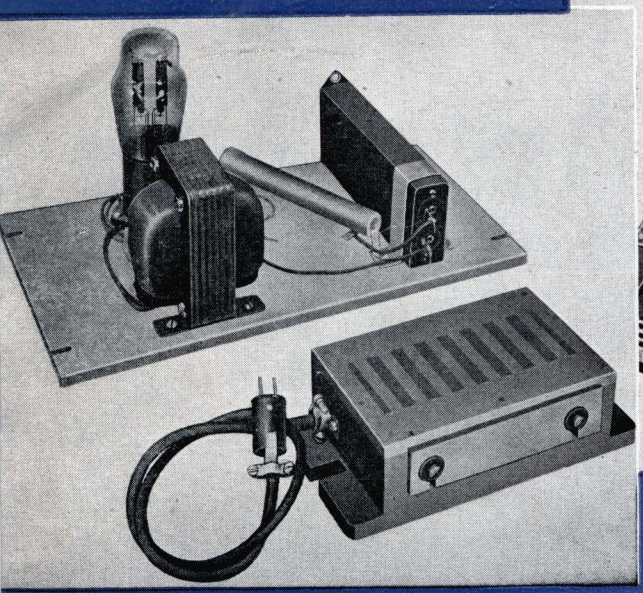
Speed with Sensitivity

Sanford Cutter Grinding Attachment in vertical working position (see page 8)

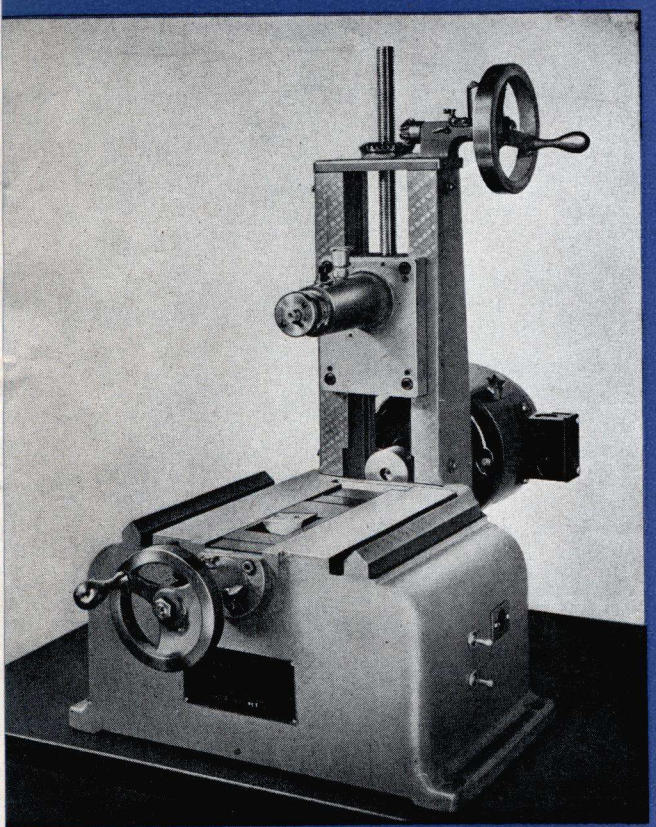
IR WAY ON JOBS LIKE THESE

Table and saddle assemblies. Long scraped Vee and Flat ways insure smooth accurate movement.





Sanford Magnetic Chuck and Tube Rectifier. Chuck has brass top plate with close highly magnetic iron laminations and is exceptionally powerful. Tube Rectifier converts 110 Volts A.C. to D.C. and is protectively mounted inside the machine base.



Guards and saddle removed, showing widely spaced transverse ways and balanced basic design.

CONSTRUCTION DETAILS

Sanford Surface Grinders are built to rigid standards of accuracy and workmanship. They will produce fine finishes to .0001" tolerances over a long period of time if given the normal careful treatment which should be extended to all tool room equipment.

CASTINGS—Heat treated and seasoned to retain original accuracy. Close grained meehanite, used at all points of wear, gives longer life and greater vibration damping capacity.

SLIDING MEMBERS—All sliding surfaces are ground and lapped for accuracy and then handspotted to provide for ample lubrication and sensitive movement.

TOOL ROOM ACCURACY

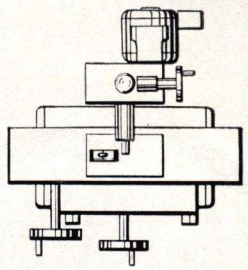
ALIGNMENT—Simple means of adjustment are provided for maintaining original accurate relationship of grinding spindle, vertical column, and bed.

MOTOR DRIVE—Dynamically balanced, 1/6 HP, 3450 RPM, 110 volts, single phase, 60 cycles. Spindle drive by means of specially designed flat belt.

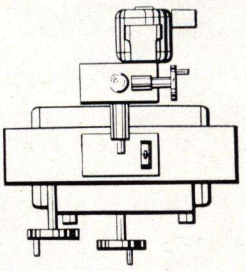
SPINDLE—Ground from fine alloy steel and mounted in precision ball bearings. Adjustment provided for bearing take up. Vertical travel controlled by hand wheel with .0005" graduations and actuated through pinion, bevel gear, and precision screw.

SADDLE—Carefully fitted to inverted, widely spaced, vee ways. Micrometer cross feed screw is actuated by hand wheel graduated in .001".

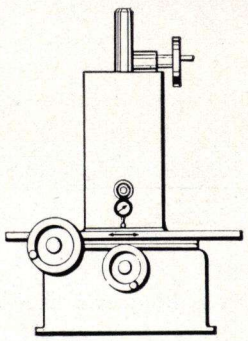
TABLE—Rests by its own weight in the saddle and travels on long vee and flat ways. Smooth sensitive movement controlled by hand wheel through closely fitted rack and pinion. Pinion shaft mounted on needle bearings which are sealed against dust and grit and lubricated for life.



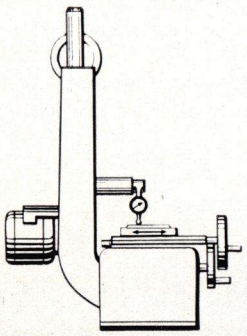
Maximum table error longitudinal direction, checked level with dial indicator. - .0001"



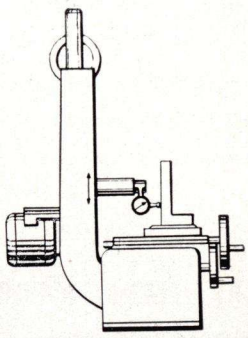
Maximum table error transverse direction, checked level with dial indicator. - .0001"



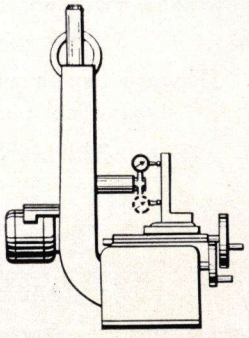
Maximum error longitudinal table movement, checked with dial indicator - - .0001"



Maximum error transverse table movement, checked with dial indicator - .0001"



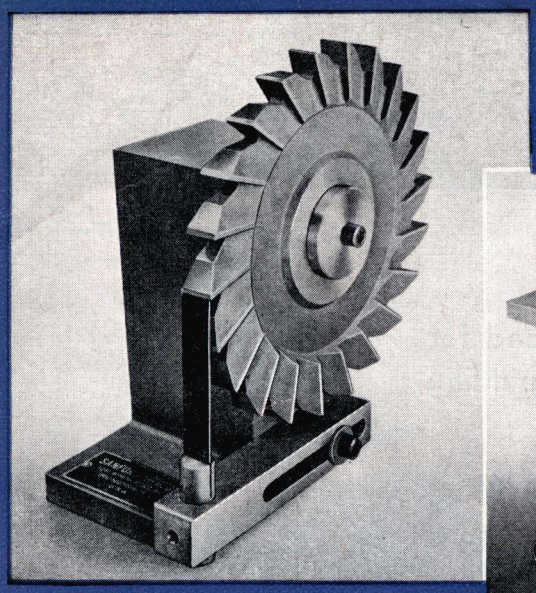
Vertical movement of spindle square with table, checked with dial indicator - .0002"



Spindle parallelism with table, measured by swinging dial indicator on 4" dia. - .0002"

Every Sanford Grinder is carefully inspected and tested before shipment.

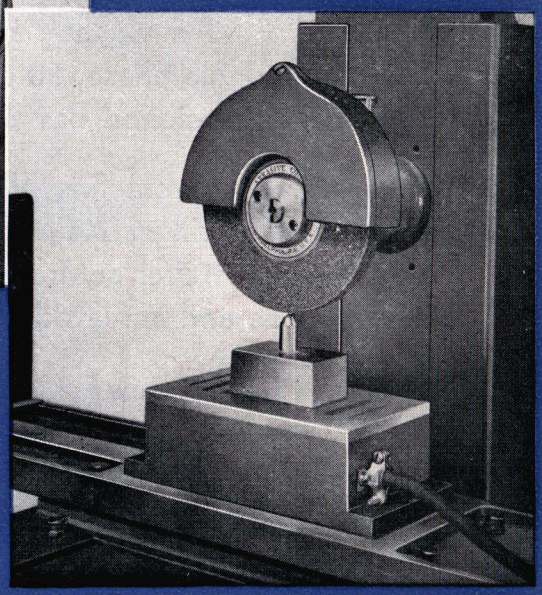
ACCESSORIES



CUTTER GRINDING ATTACHMENT---Mounts on magnetic chuck and takes Plain and Side Milling Cutters up to 6" diameter having either 1/2", 3/4", or 1" arbor holes. In vertical position teeth are ground on periphery. In horizontal position sides of cutter teeth are presented to the wheel to secure correct side clearance. This is achieved by incorporating a pre-determined angle in the horizontal mounting surface. Can be used on any surface grinder.

PORTABLE MOUNTING TABLE---Heavily varnished wood top 20" x 34" x 33" height, with 12" x 30" shelf. Supported on iron legs provided with handle and two wheels for easy portability. Suitable for any bench type machine.

DIAMOND WHEEL DRESSER and HOLDER



SPECIFICATIONS

Magnetic chuck surface	3" x 5"
Longitudinal travel of table	8"
Transverse travel	4"
Vertical movement of wheel head	6"
Maximum distance between table and 4" wheel	6"
Maximum distance between magnetic chuck and 4" wheel	4"
Standard Grinding Wheel dimensions	4" x 3/8" x 1/2"
Spindle speed	Approx. 5500 RPM
Motor, Dynamically Balanced, 1/6 HP, 110 Volt, AC, 60 Cycle	3450 RPM
Net weight	Approx. 160 lbs.
Shipping weight—domestic	190 lbs.
Shipping weight—boxed for export	250 lbs.
Cubic Measurement	23" wide, 30" deep, 27" high

Standard Equipment: Electrical equipment, Magnetic chuck with tube rectifier, grinding wheel, flat belt, exhaust type wheel guard, spark shield, spanner wrench.

EXTRA EQUIPMENT: Diamond Wheel Dresser and Holder—Cutter Grinding Attachment—Portable Mounting Table.

THIS MACHINE IS FOR DRY OPERATION ONLY

Manufactured by SANFORD MANUFACTURING CORP., UNION, N. J.